

UNITED STATES DISTRICT COURT
FOR THE
DISTRICT OF VERMONT

MICHAEL J. PRATT, Administrator)
of the Estate of Eric J. Pratt,)
Plaintiff)

v.)

Docket No. 2:13-cv-197

NATIONAL RAILROAD PASSENGER)
CORPORATION, d/b/a AMTRAK,)
NEW ENGLAND CENTRAL RAILROAD,)
INC., MICHAEL E. KUJALA AND)
WILLIAM C. RAE,)
Defendants)

AFFIDAVIT OF FOSTER PETERSON

Foster Peterson, being first duly sworn, hereby deposes and states:

1. Amtrak retained me as an expert witness in this case to analyze the event recorder data and offer opinions regarding the handling of the Amtrak train at issue in this case.

2. Data downloaded from the Integrated Function Control (IFC) locomotive event recorders on Amtrak 108 is played back by the Wabtec Data Analysis Software, which can be used to create a printout that details the speed of the train, the use of the horn, the time of the application of the brakes, the stopping distance of the train and much more.

3. It is not possible for someone to alter or manipulate this data while it is stored on the event recorder or once it is downloaded from the locomotive.

4. The Wabtec Data Analysis Software by design and necessity permits the user to adjust the wheel diameter to display and print the recorded data. The event recorder system does not record speed directly; rather, it records rotation of one of the locomotive's axles (one axle has two wheels) over time. The actual wheel diameter must be entered to allow the software to convert this wheel rotation data into speed of the locomotive and the distance that it travelled.

The wheel diameter does not effect in any way the timing of other recorded events such as how long the horn was blown, when throttle position was changed or when brakes were applied because those variables are recorded relative to time, not speed.

5. When the data was remotely downloaded in this case it had a default wheel size of 41 inches associated with the download. This number is based on the nominal size of a brand new wheel.

6. To use the event recorder printouts to analyze the speed and distance involved in an accident the wheel size needs to be measured and entered into the software because, over time, the wheel diameter decreases due to use.

7. Amtrak downloaded the event recorder data from locomotive 108 on January 16, 2012, preserved it and sent me an electronic copy with the request that I create a printout of the data and analyze it.

8. I received the locomotive event recorder data from Amtrak and was informed by Amtrak that the measured wheel diameter on Locomotive 108 was 37.5 inches.

9. It is my understanding that the event recorder printout created with the 41-inch wheel size was created in preparation for litigation as part of Amtrak's internal investigation of this fatality. The person creating the printout likely was not interested in the speed of the train because even under the default input of 41 inches the speed is below the speed limit of 55 m.p.h.

10. As a result, it did not matter what the wheel size was, so he likely did not change it. Without the accurate wheel measurement this employee could still review the data to understand the timing of events such as when the horn sounded and when the train was put into an emergency stop.

11. I created the printout with the 37.5 inch wheel size. In comparing my printout with the 41-inch wheel size printout, it is clear to me that the underlying data the software is

analyzing is identical because the throttle, the brake pressure and almost all other variables are the same.


12. In addition, I can calculate the ratio of the wheel sizes used in the two printouts and see that the differences in speed in the two printouts exhibit the same ratio.¹

13. Given all of these similarities, there is no indication that the two different printouts are any evidence that the data was manipulated. In fact, they confirm that it was not.

14. The difference in the display of the horn sounding on the two printouts that is highlighted by Plaintiff relate to the use of an older version of the Wabtec software. The 37.5-inch wheel size printout that I created was created on February 27, 2012 with Version 3.13.6.0 of the Wabtec Data Analysis Software. The 41-inch wheel size printout created on February 1, 2012, was created with Version 3.9.8.0 of the Wabtec Data Analysis Software, clearly an older version of the the software. These different versions display the data in a slightly different format, including the names of the categories at the top of the printout. For example, the column to the right of the horn column is titled "EAB BP psi" on the 37.5-inch printout, but is called "AB psi" on the 41-inch printout. This likely accounts for the differences in the placement of the "1"s in the horn column, as well.


Foster Peterson

Sworn to before me this
20 day of November, 2015.


Notary Public
My commission expires: 2/10/19
4-5-2019

PATRICK BOBO
NOTARY PUBLIC
Cherokee County
State of Georgia
My Comm. Expires Apr. 5, 2019

¹ Dividing 37.5 by 41 yields a ratio of .9146 ($37.5/41 = .9146$). For example, multiplying .9146 by the 54 m.p.h. measured at 16:00:55 in the 41 inch print out yields a speed of 49 m.p.h. ($.9146 \times 54 = 49.39$), the speed listed in the 37.5-inch printout.